

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—The Harkness scholarship in geology has been gained by B. Smith, of Sidney, and the Wiltshire prize in palaeontology by W. A. R. Wilks, of Gonville and Caius.

The Cavendish professor announces a course of demonstrations in physics at the laboratory during the long vacation, beginning on July 4.

The Victoria medal of honour has been awarded by the Royal Horticultural Society to Mr. R. I. Lynch, curator of the Botanic Garden.

A thousand willow-cuttings have been supplied from the garden to the Midlands Re-afforesting Association for the planting of waste-heaps in the "Black Country."

In the Natural Sciences Tripos, part i., thirty-eight men and no women obtain a first class; in part ii., twelve men and three women are in the first class, six being distinguished in physics and four in physiology.

MR. H. O. WILLS, of Kelston Knoll, near Bristol, has promised a contribution of 10,000*l.* towards the foundation of a university at Bristol.

THE annual garden-party will be held at Guy's Hospital on Wednesday, July 4, when Sir W. Cameron Gull, Bart., will distribute the medals and prizes to the successful students.

A GEORGE COMBE lectureship in general and experimental psychology has been established in connection with the philosophical department of the University of Edinburgh. The funds for the lecturer's salary will be provided mainly by the Combe trustees, who have also contributed 300*l.* towards the equipment of a laboratory.

THE Senate of the University of Dublin has decided to confer, at the summer commencements on July 31, the honorary degree of Sc.D. on Colonel David Bruce, C.B.; Prof. J. H. Poincaré, professor of mathematics and astronomy at the Sorbonne; Mr. E. T. Whittaker, F.R.S., Fellow of Trinity College, Cambridge, Astronomer Royal of Ireland; and Dr. A. E. Wright, F.R.S.

THE *Daily Chronicle* (June 20) announces that Sir William Macdonald has presented an agricultural college and an endowment of two million dollars (400,000*l.*) to the McGill University, Montreal. Sir William founded this agricultural college some time ago, in order to provide the youth of Canada with facilities for a thorough scientific education in agriculture.

AT University College (University of London) on July 3 the dean of the faculty of arts will read a report on the work of the session; the result of the University, scholarship and class examinations will be announced, and prizes and medals will be distributed by Dr. G. Carey Foster, F.R.S. (emeritus professor of physics, and formerly principal of the college). Lord Reay, president of the college, who will preside, will receive for the college from Prof. F. T. Trouton, acting on behalf of the subscribers, the portrait of Dr. G. Carey Foster, painted by Mr. Augustus John, and will present a replica thereof to Mrs. Carey Foster.

A COURSE of demonstrations and practical work in field and laboratory, on the applications of science to rural life and outdoor industries, will be held at the South-Eastern Agricultural College, Wye, about the last week in July or the first week in August. The course will be designed to meet the needs of science masters in rural secondary schools who have to teach various branches of science to country children. The work will be mainly practical investigation into the bearing of science on outdoor life, and lectures will be given to indicate the lines on which science teaching in rural secondary schools could be developed usefully. The cost of the fortnight's course will be 5*l.*, including board and residence in the college. Full particulars may be obtained from the principal, Mr. M. J. R. Dunstan, at the college.

FURTHER generous gifts to education by American men of wealth are announced by *Science*. Mr. David Rankin, of St. Louis, has decided to give 400,000*l.* to found an

industrial and manual training school in St. Louis. Mr. Clarence H. Mackay and his mother have together given 10,000*l.* for the immediate erection of a building for the College of Mines in connection with the University of Nevada. This building is to house the department of mining and metallurgy and that of geology and mineralogy. A recent State appropriation for the metallurgical laboratory has provided the University with a new ore-treating equipment which will be suitable for installing in the new quarters. The building will also contain a geological museum. Furthermore, Mr. F. M. Smith has arranged to provide an income of 200*l.* a year to be used for the support and encouragement of students in the mining school. This will in general be divided into five annual scholarships of 40*l.* each to be known as the F. M. Smith scholarships open to deserving students irrespective of citizenship or residence.

IT is satisfactory to know that the attempt made at the meeting of the Liverpool City Council to reduce the grant of 10,000*l.* to the University of Liverpool met with scant support. The grant was renewed by an overwhelming majority. We should like to agree with Sir Charles Petrie, who said at the meeting he could not think the mover and seconder of the amendment were serious, but there is still in this country a widespread want of appreciation of the national value of university teaching and research, and no effort must be spared to bring home to local authorities the duty devolving upon them to assist every grade of education to the fullest extent possible. As Chancellor of the University of Liverpool, Lord Derby has formally accepted from Miss Isabella Gregson, formerly of Liverpool, the gift of the Gregson Memorial Institute and Museum. The gift is to be utilised for university extension purposes, and represents in money value, with an endowment of 500*l.* added by the founder, about 300,000*l.* It was erected some years ago by Miss Gregson at her mother's request for purposes of scientific recreation in memory of her father, mother, brother, and sister.

IN the foundation oration in connection with the Union Society, delivered at University College, London, on June 13, Sir Arthur Rücker, F.R.S., took for his subject the forthcoming incorporation of the college in the University of London. He emphasised the fact that University College is undenominational, and is to be united to an undenominational university. University College was the first great step towards bringing university teaching into the centre of the great masses of population. It may be said that the University of Cambridge owes indirectly its great physiological school to the college, for it was one of its students who developed there the idea. The college with its large resources has offered itself to the new university, and has made possible an absolute fusion. A sum of about a quarter of a million has been raised with this object in view. It is an open secret, Sir Arthur Rücker continued, that the University is in full negotiation with King's College with the view of that also becoming a college of the University. The University does not intend to injure or destroy University College in any way whatever; the college has a name and a reputation with which none but a madman would attempt to interfere. If the principal educational institutions in London are drawn together, it is hoped that the University will obtain the recognition, appreciation, and loyalty which are required for success. In conclusion, the principal of London University expressed the hope that the members of University College will support all movements for drawing the students of the University more closely together. All wanted to create a great university, and this would be of the very greatest importance to the whole of London.

THE Duke of Devonshire, as president of the National Association for the Promotion of Technical and Secondary Education, took the chair at the annual meeting held on June 15. During his opening speech the president said, in consequence of the exertions of the association in past years the position of technical and secondary education has been completely changed, the Government and the local authorities having taken up the question. The work for which the association was established to carry on has been to a great extent accomplished. The association is

now no longer necessary for stimulating interest in the question of technical education or for promoting legislation. But, in the course of its existence, the association has done more than this; it has become the centre to which local authorities engaged in the work have been accustomed to look for advice, for information, and, to a certain extent, for guidance. Much of the work of the association is capable of being performed by the Government department. But from some communications which he had with the Board of Education a year or two ago, the Duke of Devonshire found that the department did not consider itself then in a position to undertake the whole of what is done by the association. It is, perhaps, possible that the present Treasury may take a different view, and that the Board of Education may be permitted by the Treasury to undertake a part of the work which has hitherto been exclusively carried on by the association. He therefore suggested that during the next year, in which provision is made for the continuance of the efficient work of the association, the executive committee should ascertain, by communication with the Government, how far the Board of Education is in a position to take up any part of the functions which the association has hitherto assumed; and if it should be found that those functions can be more usefully discharged in the future by a private association than by a department of the Government, practical consideration must be given to the manner in which it may be possible to secure a larger amount of assistance from the public. Lord Avebury and Sir Henry Roscoe also addressed the meeting.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, May 3.—“The Action of Pituitary Extracts upon the Kidney.” By Prof. E. A. Schäfer, F.R.S., and P. T. Herring.

Intravenous injections of saline extract of the infundibular part of the pituitary body produce dilatation of kidney vessels accompanied by increased flow of urine; i.e. the extract has a diuretic action.

With the first injection this result is accompanied by rise of blood-pressure and contraction of systemic arteries. With subsequent injections the diuresis is usually attended, not by a rise of blood-pressure, but by a fall. This furnishes evidence that the diuresis is independent of the effects upon blood-pressure, and leads one to suppose that it is produced by a special constituent of the extract.

This conjecture is confirmed by the result of treating the extract with certain reagents which tend to abolish the rise of blood-pressure which is produced by a first injection, but leave the diuretic effect of the extract unaltered.

The diuretic as well as the pressor and depressor constituents of the extract are not destroyed by boiling. They dialyse through parchment paper. They are insoluble in absolute alcohol and ether.

Intravenous injections of extracts from the anterior or epithelial lobe of the pituitary body do not produce diuresis; these extracts exhibit no physiological activity.

It is concluded that the infundibular part of the gland produces an internal secretion which passes into the blood, and which, both indirectly owing to its general action upon the vascular system and directly by its special action on the renal vessels and renal epithelium, assists in promoting and regulating the secretion of urine; in other words, the internal secretion of the gland is ancillary to the renal functions.

May 10.—“A Variety of Thorianite from Galle, Ceylon.” By Wyndham R. Dunstan, F.R.S., and B. Mouat Jones.

Specimens of thorianite from the Galle district of Ceylon were found to contain from 58.84 per cent. to 63.36 per cent. of thorium associated with from 32.7 per cent. to 27.9 per cent. of oxide of uranium. Ordinary thorianite from the Balangoda district contains 78.98 per cent. of thorium and 13.40 per cent. of oxide of uranium. The authors direct attention to the inter-replacement of thorium and uranium in the mineral, and conclude that the oxides of the two elements are present in isomorphous mixture, and are not chemically combined.

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Chemical Society, June 7.—Prof. R. Meldola, F.R.S., president, in the chair.—Ammonium selenate and the question of isodimorphism in the alkali series: A. E. H. Tutton. Normal ammonium selenate crystallises differently from the seven rhombic normal sulphates and selenates of the alkalis already investigated, namely, in monoclinic prisms or tables. Rhombic mixed crystals of ammonium selenate and sulphate have been obtained, and it is concluded that ammonium selenate is dimorphous, and that the whole series of sulphates and selenates is probably isodimorphous.—The vapour pressures of binary mixtures, part ii., the possible types of vapour-pressure curves: A. Marshall. By differentiating the equation of Duhem and Margules, $x d \log p_1 + (1-x) d \log p_2 = 0$, it has been found possible to classify the total pressure curves into twelve types, all of which are known to occur. The vapour pressures of the following pairs of liquids have been investigated experimentally:—nitroglycerol and acetone, diethylamine and acetone, ethyl alcohol and methyl ethyl ketone, water and methyl ethyl ketone, water and methyl acetate, water and ether, water and amyl alcohol.—The behaviour of acetylene with electrical discharges of high frequency: H. Jackson and D. N. Laurie. A semi-solid brown substance is formed when acetylene is subjected to discharges from an ordinary high-frequency apparatus, which sets to a hard and very insoluble solid on exposure to air. It is apparently a polymeride of acetylene. It absorbs oxygen readily up to about 8 per cent.—The behaviour of the vapours of methyl alcohol and acetaldehyde with electrical discharges of high frequency: H. Jackson and D. N. Laurie. Working with discharges of very short duration, the first change in the vapour of methyl alcohol is the formation of carbon monoxide and hydrogen; in the case of acetaldehyde the greater part of the vapour breaks up into methane and carbon monoxide, but acetylene and water are also produced in smaller quantities.—Note on 4-bromo-2-nitro- α -naphthylamine: R. Meldola and H. G. Dale.—Dinitroanilines and their products of diazotisation (second communication): R. Meldola and F. G. C. Stephens.—The action of sulphur dioxide and aluminium chloride on aromatic compounds: S. Smiles and R. Le Rossignol. The authors have previously shown that thionyl chloride reacts with phenetole in the presence of aluminium chloride, giving rise successively to a sulfoxide and a sulphonium base; it has since been found that this reaction may be brought about by sulphur dioxide with the aid of the same condensing agent.—Action of sodium on $\alpha\alpha$ -dichloropropylene: Miss I. Smedley.—Resolution of lactic acid by morphine: J. C. Irvine. Fermentation lactic acid may be readily resolved into its active components by the crystallisation of the morphine salts.—Brazilin and haematoxylin, part viii.: W. H. Perkin, jun., and R. Robinson.—A study of the reaction between hydrogen peroxide and potassium persulphate: J. A. N. Friend. It is shown that solutions of hydrogen peroxide and potassium persulphate interact according to the equation $H_2O_2 + K_2S_2O_8 = 2KHSO_4 + O_2$. The reaction, however, is monomolecular, due to the formation of an intermediate and highly unstable compound.—The action of magnesium methyl iodide on dextro-limonene nitrosochlorides: W. A. Tilden and F. G. Sheppard. The same compound is formed from the α - and β -nitrosochlorides. It is insoluble in aqueous alkalies and in acids, though easily soluble in the usual organic solvents, and has the formula $C_{20}H_{32}ON_2Cl_2$.—Electrolysis of potassium ethyl dipropyl malonate: D. C. Crichton. A concentrated aqueous solution of potassium ethyl dipropylmalonate yields on electrolysis the ethyl esters of α -propyl- β -ethylacrylic acid, dipropylglycolic acid, tetrapropylsuccinic acid, and probably dipropylacetic acid.—A new method for the measurement of hydrolysis in aqueous solution based upon the consideration of the motion of ions: R. B. Denison and B. D. Steele.—The oxidation of hydrocarbons by ozone at low temperatures: J. Drugman. Ozone acts slowly on saturated hydrocarbons, and the process is one of gradual hydroxylation. The reaction with an unsaturated hydrocarbon, such as ethylene, is instantaneous, even at temperatures far below 0° , and a very explosive addition compound is first formed.—Reactions involving the addition of hydrogen cyanide to carbon compounds, part v., cyanodihydrocarvone: A. Lapworth.